

1 **CLAIMS**

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3 1. A method of inducing gamete maturation to be
4 competent to fertilise in marine worms of the
5 family *Arenicolidae* which exhibit epidemic
6 spawning, said method comprising:
7 providing maturing male and/or female worms in
8 a housing substrate in sea water at a
9 temperature of 4 to 8°C for a time period of
10 14 to 24 days.

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12 2. The method as claimed in Claim 1 wherein the
13 worms are maintained at a temperature of 5 to
14 7°C for 20 to 22 days.

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16 3. A method for inducing spawning of marine worms
17 of the family *Arenicolidae* which exhibit
18 epidemic spawning, said method comprising
19 inducing gamete maturation by the method of
20 either one of Claims 1 and 2, and further
21 comprising exposing the worms to a hormone
22 able to induce gamete release.

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24 4. The method of Claim 3 wherein said worms are
25 male worms and said hormone is
26 8,11,14-eicosatrienoic acid.

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28 5. The method of Claim 3 wherein said worms are
29 female worms and said hormone is provided as
30 an homogenate of prostomium.

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- 1 6. A method for inducing spawning of marine worms
2 of the family *Arenicolidae* and which exhibit
3 epidemic spawning, said method comprising
4 inducing gamete maturation by the method of
5 either one of Claims 1 and 2, and further
6 including raising the temperature of the sea
7 water to 12 to 14°C.
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- 9 7. The method as claimed in Claim 6 wherein the
10 temperature of the sea water is increased at a
11 rate of 1°C per hour to 12 to 14°C.
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- 13 8. The method as claimed in any one of Claims 1
14 to 7 wherein said marine worms are
15 *Arenicolidae marina* or *Arenicola defodiens*.
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- 17 9. The method as claimed in any one of Claims 1
18 to 8 wherein said substrate is sand.
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- 20 10. The method as claimed in any one of Claims 1
21 to 9 wherein said marine worms are cultured
22 worms which have previously been maintained at
23 a temperature of 14 to 16°C for at least one
24 month.